REMARKS

Upon entry of the present response, claims 1-2, 4-5, 7-10, 14, 19-20 and 28-29 are pending in the application. No new matter has been added.

The Office Action.

The outstanding rejections made by the Examiner in the April 7, 2004, Final Office Action were the following:

(1) Claims 1-2, 4-5, 7-10, 14, 19-20 and 28-29 were rejected under 35 U.S.C. §101 for purportedly having no apparent or disclosed specific and substantial credible utility; and

(2) Claims 1-2, 4-5, 7-10, 14, 19-20 and 28-29 were rejected under 35 U.S.C. §112, first paragraph, for failing to teach how to use an invention without proper utility.

These issues are addressed below.

35 U.S.C. § 101 Utility Rejection Is Overcome Both On Its Own, And In Combination With The 35 U.S.C. § 112, First Paragraph, Rejection.

Claims 1-2, 4-5, 7-10, 14, 19-20, 28-29 remain rejected by this Examiner as lacking utility and as being non-enabled.

The Utility Rejection

The Examiner contends that Applicants' arguments to establish utility are not persuasive. The Examiner contends that the disclosure of the utility of stimulating growth of fibroblasts and epithelial cells in the lining of the gastrointestinal tract is not substantial since it is but one disclosed utility among a disclosure of multiple utilities. According to the Examiner, "[t]he fact that the specification also includes a recitation that the claimed invention may also stimulate cells of the gastrointestinal tract in addition to all of the other possible uses of the claimed invention does not appear to provide a substantial utility for the claimed invention as filed." June 2, 2003 Office Action, page 4. Applicants disagree.

Applicants' Assertions Regarding Utility Are Presumed True

Both case law and the MPEP direct the Patent Office to presume that a statement of utility made by an applicant is true. *See* MPEP 2107.02; *In re Langer*, 503 F.2d at 1391, 183 USPQ at 297; *In re Malachowski*, 530 F.2d 1402, 1404, 189 USPQ 432, 435 (CCPA 1976); *In re Brana*, 51 F.3d 1560, 34 USPQ2d 1436 (Fed. Cir. 1995). Applicants have clearly asserted that the claimed composition has utility in stimulating growth of fibroblasts and epithelial cells in the lining of the gastrointestinal tract. *See*, specification at *e.g.*, page 58, lines 11-12, page 59, lines 7-10. An isolated nucleic acid molecule meets the statutory utility requirement if it can be used to produce a useful protein. See Response to Comment 8, Utility Examination Guidelines, Fed. Reg, Vol. 66, No. 4, p.1094. Applicants have made such an assertion that the protein produced by the claimed nucleic acid is useful. Applicants' assertion of utility carries a presumption of truth.

It is the Examiner's burden to overcome this presumption. See MPEP 2107.02; *Raytheon v. Roper*, 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983) cert. denied, 469 U.S. 835 (1984). In order to rebut the applicants' presumption of utility, the Patent Office must make a *prima facie* showing that the claimed invention lacks utility, and provide a sufficient evidentiary basis for factual assumptions relied upon in establishing the prima facie showing. *In re Gaubert*, 524 F.2d 1222, 1224, 187 USPQ 664, 666 (CCPA 1975). If the Office cannot develop a proper prima facie case and provide evidentiary support for a rejection under 35 U.S.C. § 101, a rejection on this ground should not be imposed. See, e.g., *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

There is no evidence of record here proffered by the PTO to support a rejection under 35 U.S.C. § 101. To the contrary, the only evidence of record clearly demonstrates that the Applicants' asserted utility for the claimed composition is accurate:

1. The utility of the claimed nucleic acid in producing a useful protein, *i.e.* one that promotes fibroblast growth for accelerating healing of ulcers and stimulating cell growth in the linings of the gastrointestinal tract, was disclosed in the specification. (page 58, lines 11-12, page 59, lines 7-10).

2. The utility of the protein encoded by the claimed nucleic acid was confirmed in Applicants' subsequent work, which demonstrates that the claimed nucleic acid encodes a protein which does, in fact, stimulate proliferation of fibroblasts and epithelial cells in the lining of the gastrointestinal tract both *in vitro* and *in vivo*. See Jeffers et al., Gastroenterology, 123, pp. 1151-1162 (2002) (copy previously made of record).
3. In addition, Applicants submitted a Press Release announcing the FDA approval of CuraGen's (the assignee of this application) Investigational New Drug application to initiate human clinical trials using CG53135 (a FGF-CX protein) to treat oral mucositis by stimulating fibroblast proliferation in gastrointestinal tissue. Oral mucositis is a side effect of chemotherapy and radiotherapy resulting in the degradation of mucosal gastrointestinal tissue that can range from redness and irritation to severe ulcerations of the mouth and throat (copy previously submitted).
4. Utility is also supported by the structural similarity of FGF-CX with other known members of the FGF family, including conserved family domain and hydrophobic transport domain (see page 9, lines 17 to 21 of the specification as filed), and by the fact that the claimed FGF-CX polypeptide has a fibroblast proliferation activity like structurally related fibroblast growth factor-9 (FGF-9) which was already known and tested in the art for proliferation of fibroblasts (see pages 57-59 of the specification as filed along with FIGS. 4, 5 and 9).

The Examiner has not made out a *prima facie* case – the Examiner has presented no factual evidence to overcome the presumption of truth, nor any evidence that counters the above evidence that would lead one skilled in the art to question the objective truth of Applicants' statement of operability. And on the preponderance of the totality of the evidence here (whether or not a *prima facie* has been made out by the PTO), the record is clear that Applicants' asserted utilities of stimulation of fibroblast proliferation and stimulation of epithelial cells in the gastrointestinal tract are, in fact, true. And here there is a further presumption in favor of the Applicants because the protein encoded by the claimed nucleic acid has entered human clinical trials for an asserted utility – section 2107.03 (IV) of the MPEP expressly states that "as a general rule, if an applicant has initiated human clinical trials for a product or process, Office

personnel should presume that the applicant has established that the subject matter of that trial is reasonably predictive of having the asserted therapeutic utility." (emphasis in original).

For this reason, the utility rejection should be withdrawn since the evidence of record makes clear that the utility requirement has been satisfied.

Multiple Statements of Utility Do Not Render Invention Lacking Utility

According to the Examiner, "[t]he fact that the specification also includes a recitation that the claimed invention may also stimulate cells of the gastrointestinal tract in addition to all of the other possible uses of the claimed invention does not appear to provide a substantial utility for the claimed invention as filed." June 2, 2003 Office Action, page 4. The standard is simply that one credible utility be disclosed (and that is the case here) -- whether more than one utility is disclosed is irrelevant.

The PTO instructs its Examiners that "[i]t is common and sensible for an Applicant to identify several specific utilities for an invention, particularly where the invention is a product (e.g., ...a composition of matter)." See MPEP 2107.02. The MPEP continues that regardless of how many utilities are asserted, an applicant need only make one credible assertion of specific utility for the claimed invention to satisfy 35 U.S.C. § 101 and 35 U.S.C. § 112.

The case law is also crystal clear. Multiple additional statements of utility, even if several are not credible, do not render the claimed invention lacking in utility. *See, e.g., Raytheon v. Roper*, 724 F.2d 951, 958, 220 USPQ 592, 598 (Fed. Cir. 1983), cert. denied, 469 U.S. 835 (1984) ("When a properly claimed invention meets at least one stated objective, utility under 35 U.S.C. § 101 is clearly shown."); *In re Gottlieb*, 328 F.2d 1016, 1019, 140 USPQ 665, 668 (CCPA 1964) ("Having found that the antibiotic is useful for some purpose, it becomes unnecessary to decide whether it is in fact useful for the other purposes 'indicated' in the specification as possibly useful."); *In re Malachowski*, 530 F.2d 1402, 189 USPQ 432 (CCPA 1976); *Hoffman v. Klaus*, 9 USPQ2d 1657 (Bd. Pat. App. & Inter. 1988).

Here, Applicants have clearly made one credible assertion of utility -- that the claimed nucleic acid encodes a protein which can stimulate proliferation of fibroblast cells and epithelial

cells and can therefore be used to treat wounds where cell proliferation is important, for example by treating ulcers in the lining of the gastrointestinal tract. This is all that is required -- utility for the claimed nucleic acid has been established. To conclude otherwise would lead to the incorrect result, notwithstanding the undisputed fact that Applicants correctly asserted a credible, substantial, real world utility, that the assertion of other utilities somehow negates this accurate assertion of utility.

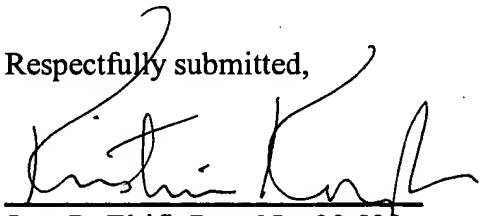
Applicants reiterate their assertion that the FGF-CX compositions of the inventions have a disclosed specific and substantial credible utility that is fully enabled in the specification as filed. The rejections under §§101 and 112, first paragraph, are improper, and Applicants respectfully request that they be withdrawn.

CONCLUSION

Applicants submit that the application is in condition for allowance, and such action is respectfully requested. Should any questions or issues arise concerning the application, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

A petition for a one month extension of time and fee are filed herewith. No additional fee is believed due at this time. However, the Commissioner is hereby authorized to charge payment of any additional fees required in connection with the papers transmitted herewith, or credit any overpayment of same, to Deposit Account No. 50-0311 (Reference No. 15966-557 RCE).

Respectfully submitted,



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